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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,159	01/24/2002	Norman C. Chou	005288.P017	2480
57299	7590	03/09/2006	EXAMINER	
AVAGO TECHNOLOGIES, LTD. P.O. BOX 1920 DENVER, CO 80201-1920			CERVETTI, DAVID GARCIA	
			ART UNIT	PAPER NUMBER
			2136	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,159

Applicant(s)

CHOU ET AL.

Examiner

David G. Cervetti

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments filed November 30, 2005, have been fully considered.
2. Claims 1-34 are pending and have been examined.

Response to Amendment

3. The objections to the drawings are withdrawn.
4. The objections to claims 24-32 are withdrawn.
5. The rejection of claims 26 and 33 under 35 U.S.C. 112, second paragraph, is withdrawn.
6. Page 18 of the Remarks, states that the amendments to the specification place claim 34 within statutory subject matter. It is not clear how the amendments have fixed this deficiency of claim 34.
7. The rejection of claim 33 under 35 U.S.C. 101 is withdrawn.
8. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention, i.e. "the reference does not teach or suggest each and every limitations of independent claims", without specifically pointing out how the language of the claims patentably distinguishes them from the references.
9. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

10. It is respectfully submitted that the instant application appears to admit that it implements Infiniband's teachings, i.e. each subnet is managed by at least one subnet manager, communicating with the management port using SMP (Subnet Management Packets) (pages 2-4). Furthermore, the Management Key provided by Infiniband is used for management purposes. Infiniband clearly teaches using SMPs, including port states (active or not), using a key for authentication, broadcasting port state to refrain from sending SMPs to the management port, a subnet manager residing on a management port, etc. (chapters 14-15).

Specification

11. The disclosure is objected to because of the following informalities: "IP" (page 3, line 1). While well known in the art, these terms have not been defined.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 22, 24-26, and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 22 and 24-26, claim 22 states "means for detecting, informing, refraining, receiving, and sending". These limitations are considered non-statutory subject matter because they consist on software code for detecting, informing, refraining, receiving, and sending (page 19, paragraph [43]). The claims are not limited to tangible embodiments. Applicant has invoked USC 112, 6th paragraph by using "means plus function language". In view of page 19, paragraph 43 of the specification

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which describes that the processing logic may comprise software, the fact that it may also be embodied in hardware is not persuasive. Claims 24-26 are rejected based on their dependency from claim 22.

Regarding claim 34, claim 34 states “a computer readable medium”. The specification recites on page 9: “For example, a machine-readable medium includes read only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; flash memory devices; **electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.); etc.**” (emphasis added). A propagated signal, “electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.); etc” is considered non-statutory subject matter.

14. To expedite a complete examination of the application, the claims rejected under 35 U.S.C. 101 (non-statutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

16. **Claims 1-34 are rejected under 35 U.S.C. 102(a) as being anticipated by Infiniband.**

Regarding claim 1, Infiniband teaches a system to support management operations associated with an interconnect device, the system comprising (chapter 14): a configuration switch configured to receive an operator command to reset authentication data that facilitates authorization of the management operations from an operator (pages 654, 682-700), and configured to generate a reset signal in response to the operator command ; and a port of the interconnect device coupled to the configuration switch, the port configured to maintain the authentication data and to reset the authentication data upon receiving the reset signal from the configuration switch (pages 654, 682-700).

Regarding claim 8, Infiniband teaches to support management operations associated with an interconnect device, the method comprising (chapter 14): receiving a reset signal from a configuration switch at a decoder of a management port, the reset signal indicating that an operator requested a reset of an authentication data that facilitates authorization of the management operations (pages 654, 682-700); and

resetting a copy of the authentication data, wherein the authentication data is stored in the decoder in response to the reset signal (pages 654-700).

Regarding claims 12, 22, and 34, Infiniband teaches to support management operations associated with an interconnect device, the method comprising (chapter 14): detecting that a reset of authentication data residing in a management port of the interconnect device is required (pages 654-700); informing an operator that the reset is required (pages 654-700); refraining from sending subnet management packets (SMPs) to the management port upon detecting that the reset is required (pages 654-700); receiving a message from the operator that indicates that the authentication data has been reset (pages 654-700); and subsequent to the receipt of the message, sending to the management port an update SMP with a request to set authentication data residing in each unit of the interconnect device to an update value (pages 654-700).

Regarding claim 23, Infiniband teaches an interconnect device to maintain authentication data in a plurality of units, the authentication data facilitating management operations associated with the interconnect device (pages 654-700); a configuration switch coupled to the interconnect device, the configuration switch configured to reset authentication data residing in a management port of the interconnect device (pages 654, 682-700); and a sub-network (subnet) manager coupled to the interconnect device, the subnet manager configured to detect that the reset of authentication data residing in the management port is required (pages 654-700), to inform an operator that the authentication data has been reset (pages 654-700), and to send to the management port an update data packet with a request to set the

authentication data residing in each of the plurality of units of the interconnect device to an update value (pages 654-700).

Regarding claim 33, Infiniband teaches a decoder configured to reset authentication data stored in the decoder based on a reset signal received from a configuration switch, and to receive a management packet from the sub-network (subnet) manager with an update value for the authentication data residing in a plurality of units of an interconnect device (pages 61-114, 641-700); and a subnet management agent configured to receive the management packet from the decoder and to control the update of the authentication data residing in each of the plurality of units (pages 641-700).

Regarding claim 2, Infiniband teaches wherein the port is configured to store the authenticated data together with a set of associated attributes (pages 641-700).

Regarding claim 3, Infiniband teaches wherein: the port is a management port (pages 641-700); the authentication data is a management key (pages 641-700); and the set of associated attributes includes a protection attribute specifying a level of protection required for performing a particular management operation and an expiration attribute controlling expiration of the management key (page 654-658).

Regarding claim 4, Infiniband teaches a sub-network (subnet) manager coupled to the interconnect device, the subnet manager configured to store a copy of the management key and to include the management key into a Subnet Management Packet (SMP) sent to the management port for a comparison with the management key stored in the management port (page 687-700).

Regarding claim 5, Infiniband teaches wherein the management port comprises: an initialization module to store the authentication data; a decoder to store a first copy of the authentication data; a management agent to store a second copy of the authentication data; and a processor subsystem interface to provide access to a storage device that stores a third copy of the authentication data (pages 61-114, 78-80, 641-700).

Regarding claim 6, Infiniband teaches wherein the decoder is configured to receive the reset signal from the configuration switch (page 641-700).

Regarding claim 7, Infiniband teaches wherein the decoder is configured to communicate the reset signal to any one of the initialization module, the management agent and the configuration interface (page 641-700).

Regarding claim 9, Infiniband teaches receiving a management packet from a sub-network (subnet) manager with an update value for the authentication data (pages 654-658); and setting the copy of the authentication data stored in the decoder to the update value (pages 641-700).

Regarding claim 10, Infiniband teaches the decoder communicating the reset signal to any one of an initialization module, a management agent and a processor subsystem interface; and resetting a corresponding copy of the authentication data upon receiving the reset signal at any one of the initialization module, the management agent and the processor subsystem interface (pages 641-700).

Regarding claim 11, Infiniband teaches wherein the authentication data is a management key (pages 641-700).

Regarding claims 13 and 24, Infiniband teaches wherein: the SMPs are virtual lane 15 (VL 15) packets (pages 61-114); and the authentication data is a management key (pages 641-700).

Regarding claims 14 and 25, Infiniband teaches wherein each SMP sent to the management port includes authentication data that matches authentication data residing in a decoder of the management port unless the authentication data residing in the decoder is set to a predetermined value (pages 641-700).

Regarding claims 15 and 26, Infiniband teaches wherein the authentication data is stored in the management port with a set of associated attributes, the set of associated attributes including a protection attribute specifying a level of protection required for performing a particular management operation and an expiration attribute controlling expiration of the authentication data (pages 641-700).

Regarding claims 16 and 27, Infiniband teaches wherein detecting that the reset is required comprises: sending a SMP containing a copy of the authentication data maintained by the subnet manager to the management port (pages 654-658); and receiving a trap indicating that the management port has invalidated the SMP due to a mismatch between the authentication data included the SMP and the authentication data maintained by the management port and further indicating that the expiration attribute is set to a value that prevents expiration of the authentication data (pages 641-700).

Regarding claims 17 and 28, Infiniband teaches wherein detecting that the reset is required comprises: sending an initial SMP containing a copy of the

authentication data maintained by the subnet manager to the management port; determining that a response to the initial SMP has not been received from the management port for a predefined time period; re-sending the initial SMP for a predetermined number of times without receiving a response; and determining that the failure to receive the response may be caused by a mismatch between the authentication data included in the initial SMP and the authentication data maintained by the management port (pages 247-254).

Regarding claims 18 and 29, Infiniband teaches wherein the update value is the value of authentication data stored in a database of the subnet manager (pages 654-658).

Regarding claims 19 and 30, Infiniband teaches wherein the management port stores multiple copies of the authentication data; and only one copy from the multiple copies has been reset in response to the operator command (pages 61-114, 78-80, 641-700).

Regarding claims 20 and 31, Infiniband teaches determining the update value for the update SMP (pages 61-114, 641-700).

Regarding claims 21 and 32, Infiniband teaches wherein determining the update value comprises: upon receiving the message indicating that the authentication data maintained by the management port has been reset, sending to the management port a read SMP requesting a current value of the authentication data maintained by the management port; receiving the current value of the authentication data maintained by the management port from the management port; designating the received value as the

update value; and updating authentication data in a database of the subnet manager with the received value (pages 641-700).

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David G. Cervetti whose telephone number is (571) 272-5861. The examiner can normally be reached on Monday-Friday 7:00 am - 5:00 pm, off on Wednesday.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DGC

CHRISTOPHER REVAK
PRIMARY EXAMINER

CR 3/4/06